Iowa Farm Science

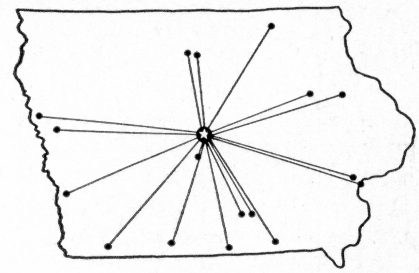
Volume 9 | Number 4 Article 6

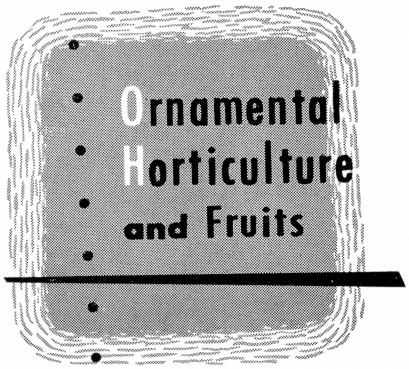
10-1954

Your Experiment Station Reports- Ornamental Horticulture and Fruits

Iowa Farm Science Editorial Board

YOUR EXPERIMENT STATION REPORTS . . .





"All-America" Rose Winners Announced

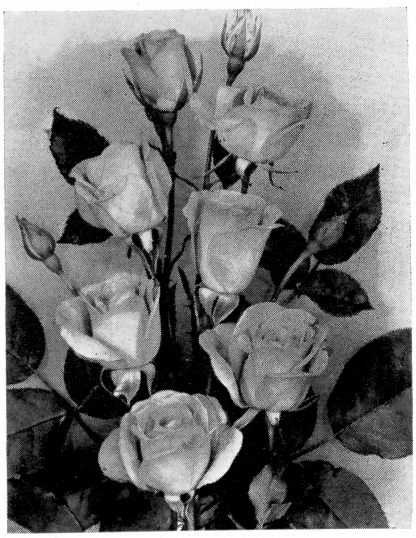
WINNERS of the All-America Selections competition in the hybrid tea rose and floribunda classes have been announced. Of the 26 hybrid tea and 16 floribunda entries, the following have been chosen for the "All-America" award.

No. 52-R-10 (Tiffany) was the top-scoring hybrid tea rose. Studies in the rose garden at Iowa State College showed that No. 52-R-10 was an outstanding rose in all respects under Iowa conditions. Large, very double, light salmon-pink flowers freely produced throughout the season on long stems make this All-America winner a welcome addition to rose gardens anywhere in America.

No. 52-R-23 (Queen Elizabeth) also received an All-America award in the hybrid tea class. This tall and vigorous rose offers a new and attractive color to rose gardens. The color is best described as a light orchid pink. The flowers tend to form in clusters, but this doesn't detract from the rose's value as a cut flower or garden decorative.

In the floribunda class, entry No. 52-R-54 (Jiminy Cricket) received the highest score. Its color is a blend of red, orange and yellow.

Some of the points checked in scoring the roses are: everblooming habit, vigorous growing, reasonable pest resistance and hardiness with winter protection, reports E. C. Volz of the Iowa Agricultural Experiment Station.



"Jiminy Cricket" is a florabunda rose of a red-orange-yellow blend in color.

Polyethylene Good for Wrapping Nursery Stock

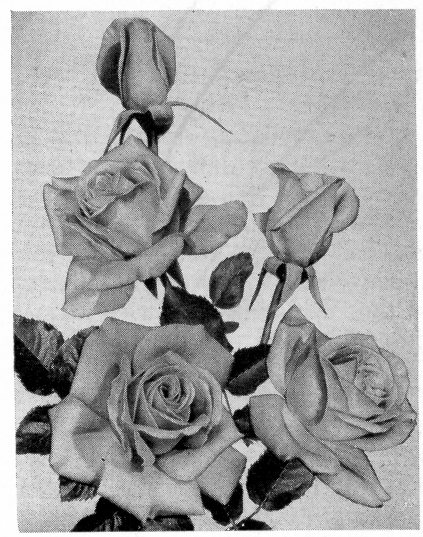
POLYETHYLENE combined with kraft paper can be used effectively to package most nursery stock for shipping and retail markets. Some of the advantages of using polyethylene are: (1) increased proficiency in wrapping techniques, (2) reduced material costs, (3) reduced package moisture loss, (4) above average plant survival, (5) decided reductions in package weight causing savings in shipping costs, and (6) improved appearance of packages containing plant materials.

These advantages are some of the findings of a research study by John P. Mahlstede and Lee K. Kirk of the Iowa Agricultural Experiment Station. The nursery stock tested included carnations, delphiniums, chrysanthemums, strawberries, roses, arborvitaes and junipers. Delphiniums were the only plants that couldn't be packaged in polyethylene with any degree of success.

Breeding Studies to Improve Garden Roses

ROSE BREEDING studies to combine hardy rose species with desirable garden-type roses are in progress at Iowa State College. This work is being done by Griffith J. Buck and J. E. Sass in cooperation with the American Rose Society.

Crosses were made to combine the nematode resistance of Ames 5, the sub-evergreen, disease-resistant characters of R. wichuraiana and R. polyantha grandi-



"Tiffany" is a hybrid tea rose with large very double, light salmon-pink flowers.

This is a bed of seedling geraniums under test and observation by horticulturists at Iowa State College. Breeding studies are continuing with emphasis on the pink, white and odd-colored varieties.

flora, and the wide range of compatibility and ease of propagation characteristics of R. multiflora.

In addition to this, the development of a thornless seedling-type rose understock is in progress. Bud-graft unions are also being studied.

Superior Petunias For Iowa Planting

A COLLECTION of the newer hybrid petunias was featured in the annual garden at Iowa State College. The varieties of superior merit included: Comanche, Linda, Tango, Rose Charm, LaPaloma, Ballerina and Lipstick.

In the hardy perennial collection, the new white Rudbeckia, White Lustre, was outstanding as a cut flower and garden subject.

Rose Varieties Resistant To Blackspot Listed

THE defoliating disease, Blackspot, was very damaging to roses during the 1953 season. Studies at the Horticulture Farm at Iowa State College showed that the following varieties were unusually resistant to this disease with a very few protective spray applications: Allure, Autumn Bouquet, Bloomfield, Abundance, Charlotte Armstrong, Chrysler Imperial, Dean Collins, Etoile de Hollande, LaFrance, Lorraine Lee, Mabel Turner, Mary Guthrie, Orange Ruffels, Pink Princess, Poinsettia, Red Duchess and Suntan.

Iowa State College horticulturists operate one of 22 official trial gardens cooperating with the American Rose Society and the All-America Rose Selections Committee.

Red Geranium Varieties Give Better Performance

FOUR-YEAR trials on the garden performance of 22 standard commercial geranium varieties show that some of the red varieties adapt to local conditions better than other colors. Although they vary somewhat in their behavior from year to year, the following red, standard geranium varieties have made a good showing: Radio Red, General Grant, Red Barney, Pride of Camden and Bunny's Pride.

Breeding studies are continuing with the greatest improvement by breeding needed in the pink, white and odd-colored groups. The end purpose of these studies, which are conducted by E. C. Volz of the Iowa Agricultural Experiment Station, is to provide better commercial geranium varieties for Iowa florists.

Study Turf Grasses For Use in Iowa

THERE ARE many different kinds of turf-producing grasses. But, just a few of them are well suited to the uses that turf is called upon to serve—such as in lawns, cemeteries, parks, athletic fields and golf courses.

Kentucky bluegrass, when managed correctly as at Clyde Williams Field at Iowa State College, has produced an excellent, wear-resistant football turf. This work is under the direction of Beryl Taylor of the Athletic Department.

Although Kentucky bluegrass has long been the most popular basic, turf grass, 3-year tests by the Iowa Agricultural Experiment Station show that a new strain of bluegrass, Merion, is superior to the Kentucky bluegrass. Plots planted with Merion and Kentucky bluegrass weren't watered during the year. But the Merion plots remained green several weeks longer than the adjacent Kentucky bluegrass plots. The Merion plots finally became browned during August. Plots of arboretum bluegrass looked very good, too.

The only plots in the turf garden which remained green throughout the summer and fall were plots containing Alta fescue. Alta fescue withstands close mowing successfully, but, because of its broad, coarse-bladed leaves, isn't particularly attractive as a lawn grass. However, Alta fescue is proving to be valuable for athletic fields and playground areas if mowed regularly throughout the spring and summer.

Three-year plots of Zoysia japonica have been hardy and form very dense turf. The fine-leafed strains of Z. japonica, such as Meyer, Z72 and Z73, were planted in plots to study their adaptation in Iowa. Zoysia starts late in the spring, grows well during the summer but is browned by the first frost. It needs a sunny location and may be useful on golf tees in central and southern Iowa because of its ability to form an exceedingly tough turf.

Study Yields of 10 Strawberry Varieties

STRAWBERRY yields obtained in the June-bearing variety trial planted in 1952 are as follows (on a per acre basis): Dunlap, 8,198; Robinson, 7,623; Sioux, 5,385; Armore, 5,324; Premier, 4,931; Vermilion, 3,933; Arrowhead,

3,812; June Rockhill, 2,844; Sparkle, 1,906; and Temple, 1,513.

These results are not conclusive, however, and yields will be taken again in 1954 of these 10 varieties at both Ames and Council Bluffs. The trials are under the direction of E. L. Denisen of the Experiment Station.

Four-year trials on the performance of 22 standard commercial geranium varieties indicate that some of the red varieties adapt to local conditions better than pink, white and odd-colored varieties.

Test Insecticides and Fungicides for Orchards

If insecticides and fungicides are to be useful in the orchard, they must efficiently control insects and disease, but, at the same time, not injure the foliage and fruit.

For many years, lime-sulfur was the standard fungicide for the control of apple scab. Its use nearly always results in foliage stunt when used in the early part of the spray control program. Sulfur used at low concentrations may produce severe burning of foliage and fruit.

Some of the newer fungicides used to control apple scab are gaining in popularity because they're efficient and don't injure the foliage much.

An insect and apple scab control program under the direction of H. L. Lantz in cooperation with W. H. Buchholtz and W. D. Fronk of the Experiment Station was carried out in a block of 80 Jonathan and 80 Delicious trees 10 years of age. The fungicides used included liquid lime-sulfur, wettable sulfur, Crag 341, captan, ferbam, Puratized, and a combination insecticide-fungicide known as One-Pak. The insecticides included lead arsenate, DDT, parathion, dieldrin, methoxychlor and One-Pak.

Examinations during the spring, summer and fall showed no injuries to the foliage or to the fruit, except in the lime-sulfur plots where a small amount of leaf stunt was noted early in the season.

The check (unsprayed trees) presented an interesting contrast when compared with the sprayed trees. The crop was reduced, the foliage was poor in quality, and, in late September, the foliage on these check trees was nearly all off the trees. Sprayed trees retained their leaves a full month longer.

In the insect-control program, the percentage of codling moth-injured fruit ranged from 10 percent in the One-Pak plots to 95 percent in the untreated check. The yield exceeded 1,000 pounds in the plots treated with One-Pak, lead arsenate, DDT and methoxychlor, while the untreated check yielded only 108 pounds. Dieldrin and parathion failed to give satisfactory codling moth control.

Two-spotted and European red mite populations increased rapidly in the One-Pak, DDT, methoxychlor and lead arsenate plots after July 20. Parathion was the only material to hold the mite population to a low level. The population was fairly low in the dieldrin plots, but this was due, it is believed, to the action of Crag 341 which was being used as a fungicide on these plots. By the first part of September, the mite population returned to a low number level in all of the treatments except DDT and One-Pak (which contains DDT). The mite egg population was about the same as the adult except that the egg numbers in the DDT and One-Pak plots returned to a low population level as did the populations in the other treatments.

In a similar study in the variety collection plum orchard, brown rot has been prevalent and very difficult to control. The use of mild wettable sulfur sprays at 6 pounds per 100 gallons gave fair control, but foliage damage always accompanied its use. For the past 3

Test plantings of geraniums also reveal differences in time of bloom. This picture shows the same plantings as those above, but at a different time. Notice the variation in location of blooming geraniums.

years, a mixture of ferbam and wettable sulfur has given practically complete control of brown rot, and the fruit and foliage damage has been negligible. The rate was: Ferbam, 1 pound, plus wettable sulfur at 3 pounds per 100 gallons. Three sprays during the growing season were sufficient.

In this plum orchard, plum curculio was very damaging. Three years of parathion sprays have resulted in nearly complete control. One pound of parathion (15-percent wettable powder) per 100 gallons was used. The first spray was given at shuck fall, and the second spray 7 to 10 days later.

The grass ground cover was sprayed each time. All varieties except Underwood showed no foliage damage. The trees of Underwood lost all their foliage following the first parathion spray.

Look Into Cherry Ring Spot Spread

THOUGH cherry root grafts in the nursery are extremely rare, the possibility that the ring spot virus may spread through underground root grafts has been established, according to W. F. Buchholtz and Oscar F. Hobart of the Iowa Agricultural Experiment Station.

Buchholtz and Hobart, who are doing research on stone fruit viruses and their control, add, however, that other evidence points to a greater probability of above-ground transmission of ring spot.

Test Lindane to Control Woolly Apple Aphid

THE EFFECTIVENESS of lindane for the control of the woolly apple aphid has been tested under the direction of H. M. Harris of the Experiment Station. About 135 acres of budded and grafted apple trees were treated. The trees received two applications with conventional orchard sprayers of 2 pounds of lindane per acre.

Trees were checked at digging time, and the results were very encouraging. In one nursery, however, two varieties of crabs were rather highly infested by the woolly apple aphid. These trees were not sprayed during their first season's growth in the nursery, so this fact might account for the high infestation. These experiments on the control of the woolly apple aphid are continuing.

Strawberry-Weed Tests Affected by Drouth

NONE of the herbicides applied to strawberries in weed-control tests in 1953 were effective during the dry weather following July 9 when the herbicides were applied. Two weeks later, however, the plots were again cultivated and given repeat applications of the herbicides. Light rains followed, and the applications were very effective in weed control.

Herbicides used in the tests were Crag Herbicide 1 at 4 pounds per acre, sesin (benzoate form of Crag 1) at 6 pounds and 10 pounds per acre, and alanap 1 (N-1 naphthylphthalamic acid) at 6 pounds per acre. The only treatment which injured strawberry plants was alanap 1.

Experiments with raspberries indicate that Crag Herbicide 1 is satisfactory for use in chemical weed control for raspberries. Suggested rates are 4 pounds per acre for heavy soils down to 2 pounds for sandy soils.

Doing research with horticultural crops at the Experiment Station are E. P. Lana, E. L. Denisen, H. L. Lantz and J. P. Mahlstede.

Study Red and Black Raspberry Breeding

LATHAM x WASHINGTON and Latham x N.C. 206 were the outstanding crosses of red raspberries in a recent study by E. L. Denisen of the Iowa Agricultural Experiment Station.

From the cross Latham x N.C. 206, a total of 439 seedlings were grown and evaluated. Of this total, 104 plants produced suckers and 335 were non-suckering types. Several selections are non-suckering, and it seems that this feature could be very desirable for a grower since suckers present many cultural problems. Studies are under way to find a practical method of propagating the non-suckering types.

In the black raspberry variety and selections trial, the highest yielding variety was Bristol, and the two high yielding selections were Nos. 20 and 77. No. 20 is being propagated for introduction as a variety at a later date. Both Nos. 20 and 77 and three other selections are products of the breeding program of the late T. J. Maney.

Because of the severe drouth conditions during the 1953 growing season, the information from cultural studies was greatly reduced. The drouth of 1953 pointed up the need for supplemental irrigation of small fruits. Although summer mulches conserve some moisture, they don't solve the moisture deficit problem during periods of drouth.

New Apple Cross To Be Introduced

THE APPLE A611 (Jonathan x Delicious) has shown marked resistance to fire blight during 4 years of severe fire blight.

The fruit averages somewhat larger in size than Jonathan, resembles Jonathan in form, and is of much better color than Jonathan. The quality resembles both parents. It is a little less acid than Jonathan, and is more acid than Delicious. The season is January through March or April. The fruit doesn't become mealy when ripe, nor has it shown any storage defects.

During the summer of 1953, plans were completed to propagate enough trees of A611 to advertise and introduce it to the trade. These propagation and introduction plans were made in cooperation with the Committee for Agricultural Development and the Iowa Nurseryman's Association. A611 will be named before it's formally introduced to the trade.

Trees of six of the other promising A-numbered apples were propagated to permit more extended orchard tests. Several other noteworthy cross-bred apples in the test orchard were re-propagated on Clark dwarfing stock to study their behavior on this promising new commercial type dwarf tree.

These breeding studies were made by H. L. Lantz of the Iowa Agricultural Experiment Station in cooperation with the USDA.